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**Xu**

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(54) **GAS TURBINE ENGINE COMPONENT WITH  
DIFFUSIVE COOLING HOLE**

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See application file for complete search history.

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(57) **ABSTRACT**

A component for a gas turbine engine includes a gas path wall having a first surface, a second surface exposed to hot gas flow, and a cooling hole extending through the gas path wall. The cooling hole includes an inlet formed in the first surface, an outlet formed in the second surface, cooling hole surfaces that define the cooling hole between the inlet and the outlet, and a longitudinal ridge formed along at least one of the cooling hole surfaces. The longitudinal ridge separates the cooling hole into first and second lobes. The cooling hole diverges through the gas path wall, such that cross-sectional area of the cooling hole increases continuously from the inlet through the cooling hole to the outlet.

**11 Claims, 10 Drawing Sheets**

